

FIG. 1

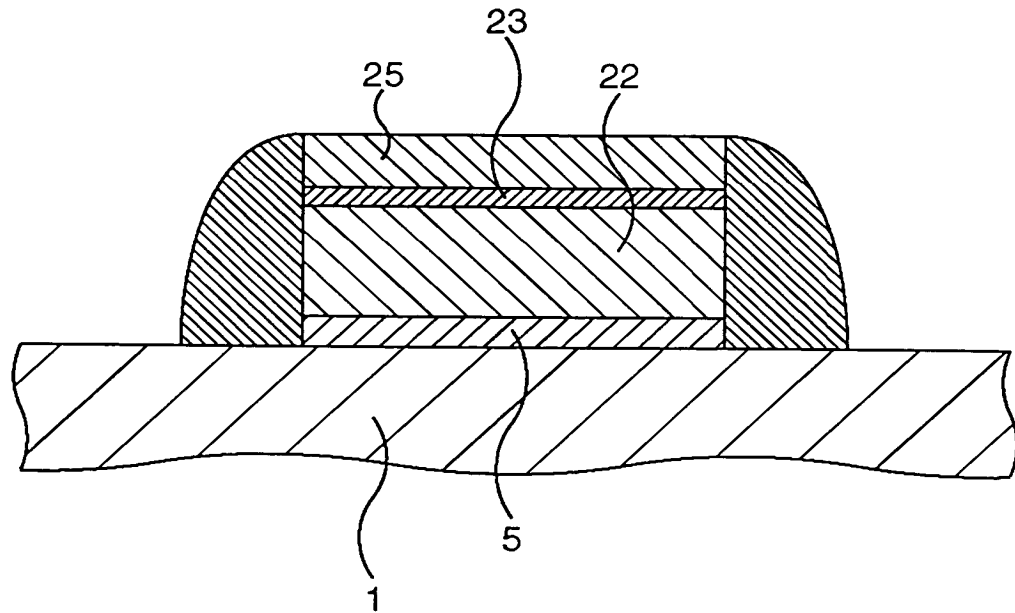


FIG. 2A

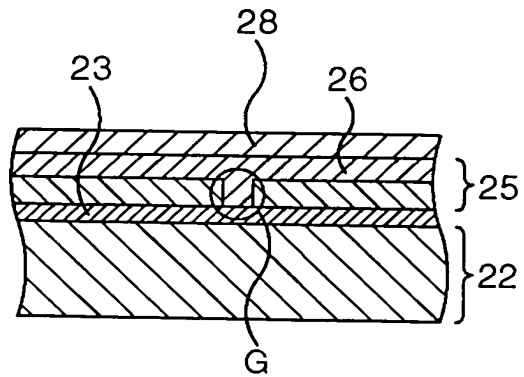


FIG. 2B

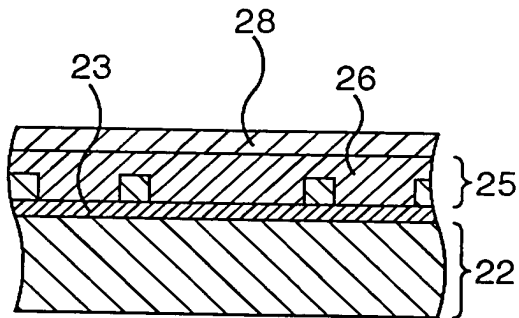


FIG. 2C

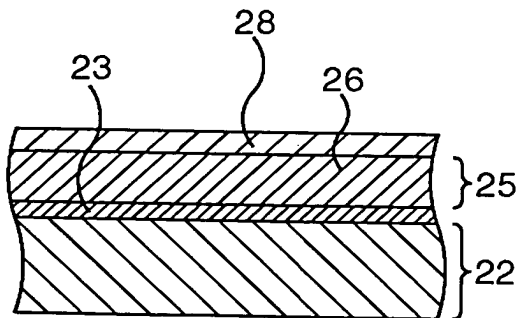
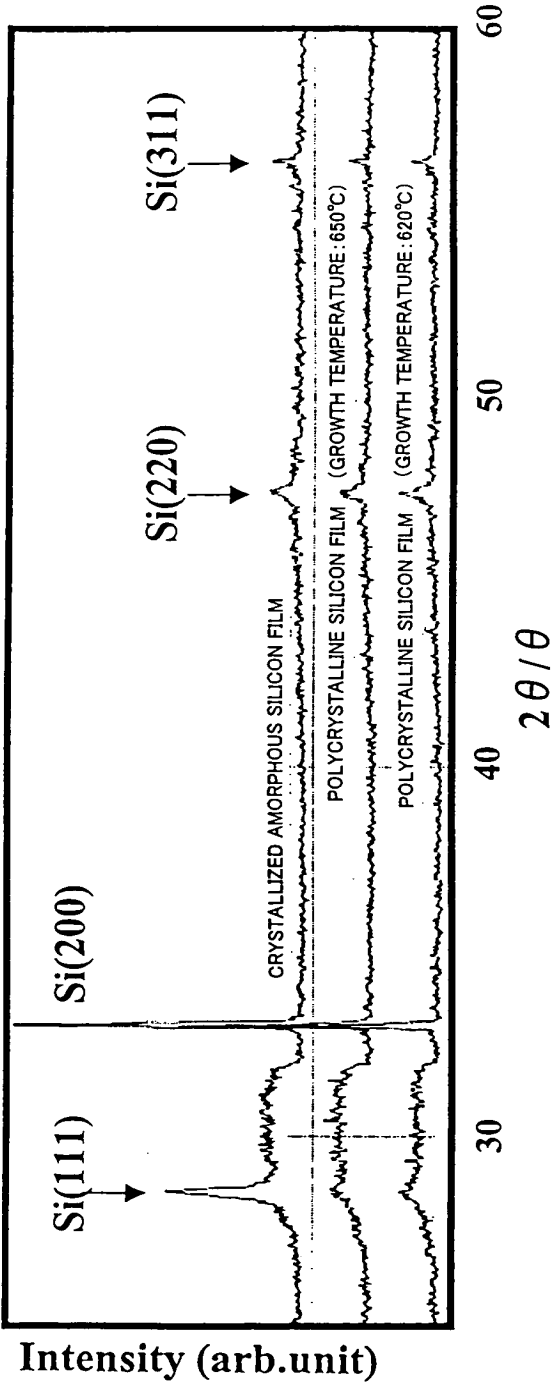


FIG. 3A



<X-RAY DIFFRACTION RESULTS OF VARIOUS SILICON FILMS>

FIG. 3B

| BASE SILICON FILM | | SILICIDE RESISTANCE VALUE |
|------------------------------|-------------------------|---------------------------|
| POLYCRYSTALLINE SILICON FILM | | 7. 2 (Ω/sq) |
| AMORPHOUS SILICON FILM | WITHOUT CRYSTALLIZATION | 6. 4 (Ω/sq) |
| | WITH CRYSTALLIZATION | 5. 7 (Ω/sq) |

<RESISTANCES OF CoSi₂ FOMED ON VARIOUS SILICON FILMS>

FIG. 4

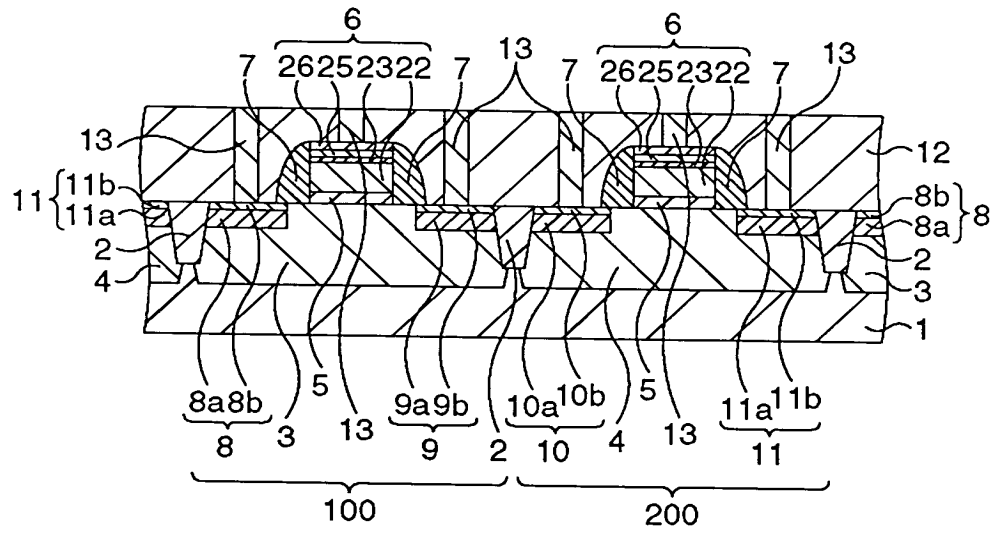


FIG. 5A

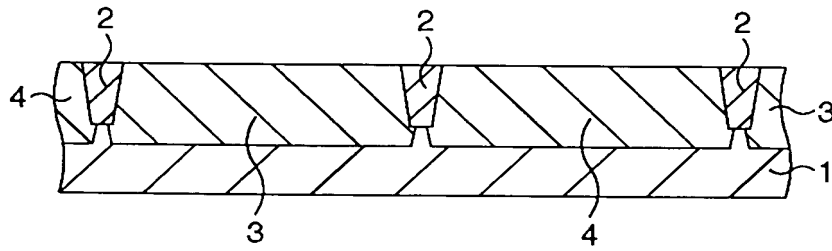


FIG. 5B

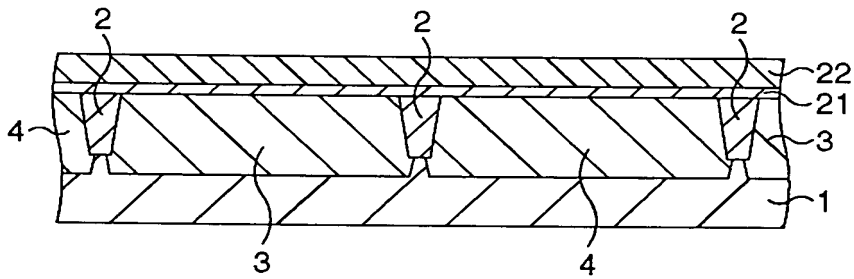


FIG. 5C

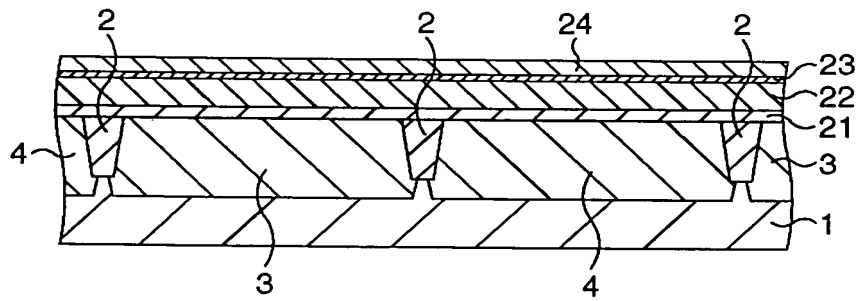


FIG. 5D

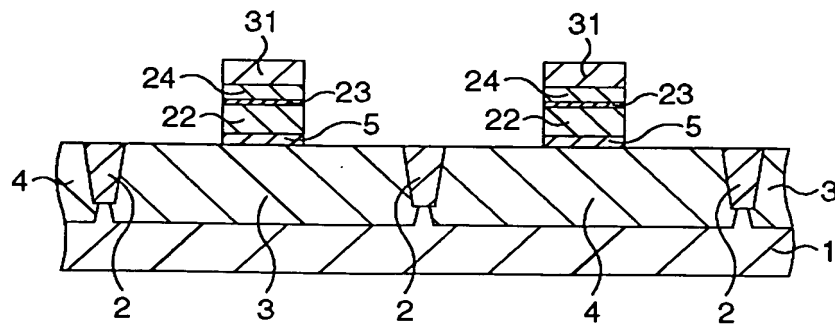


FIG. 6A

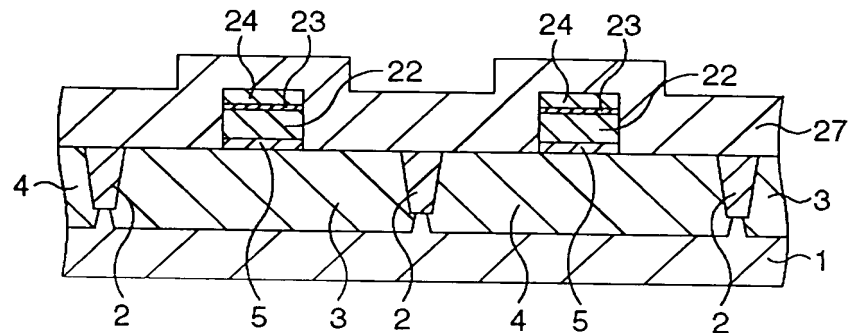


FIG. 6B

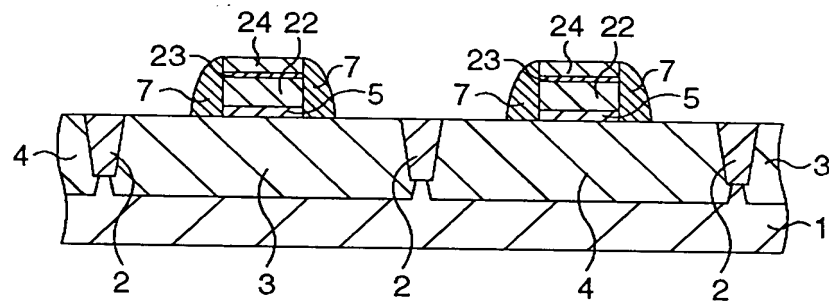


FIG. 6C

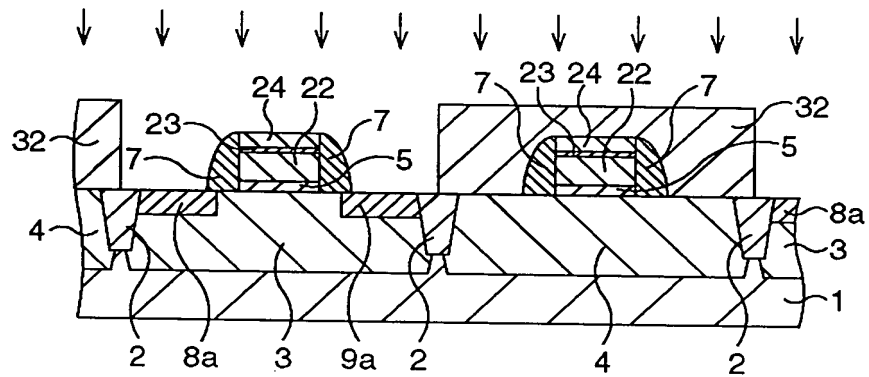
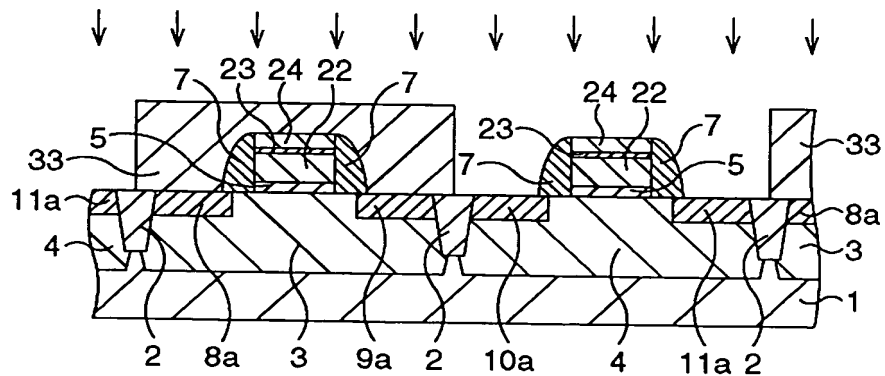
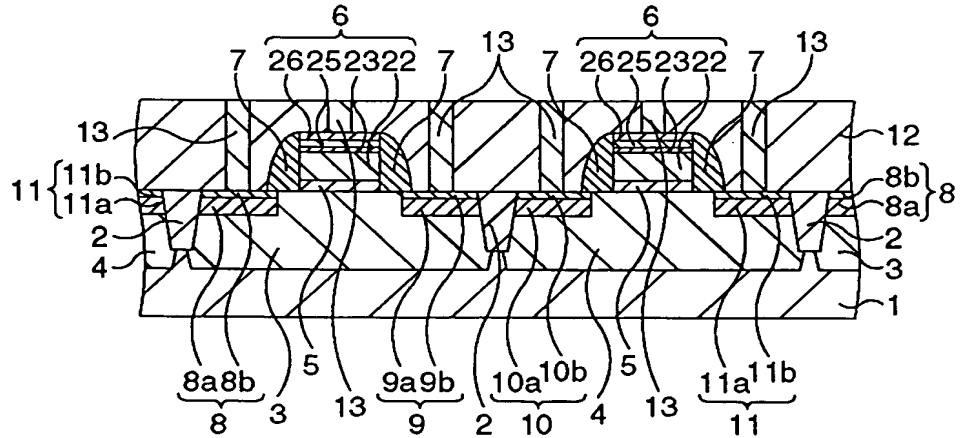


FIG. 6D





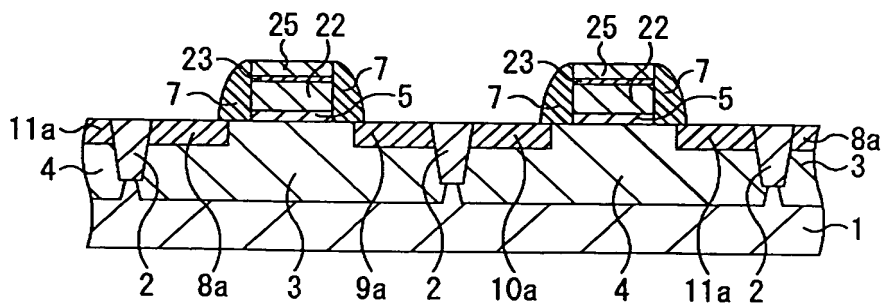


FIG. 10

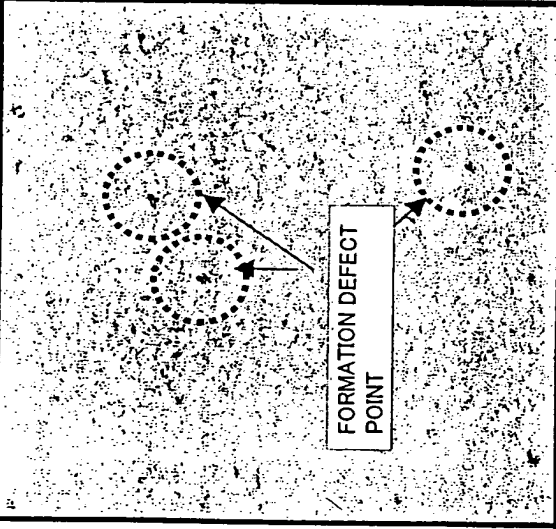
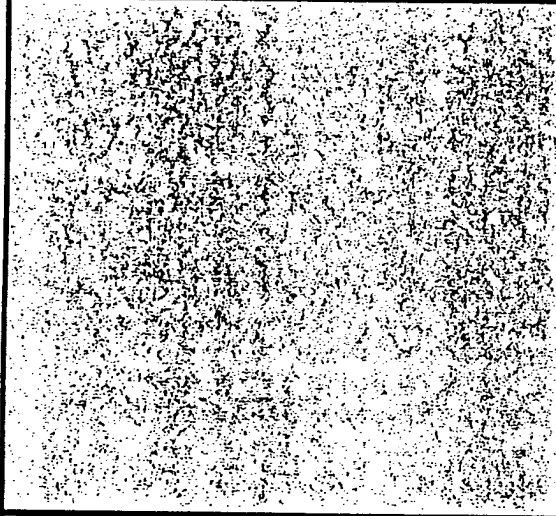
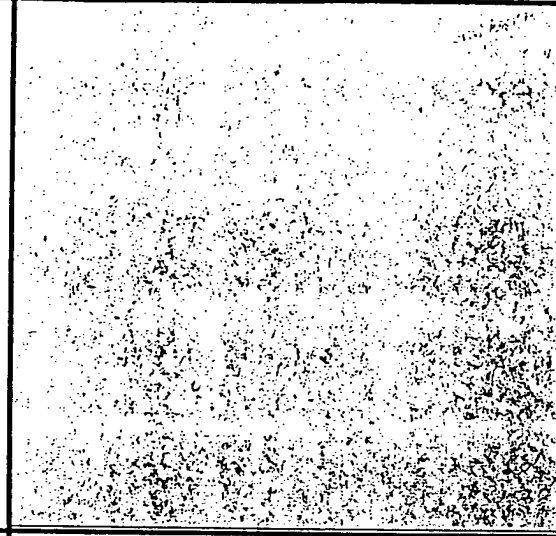
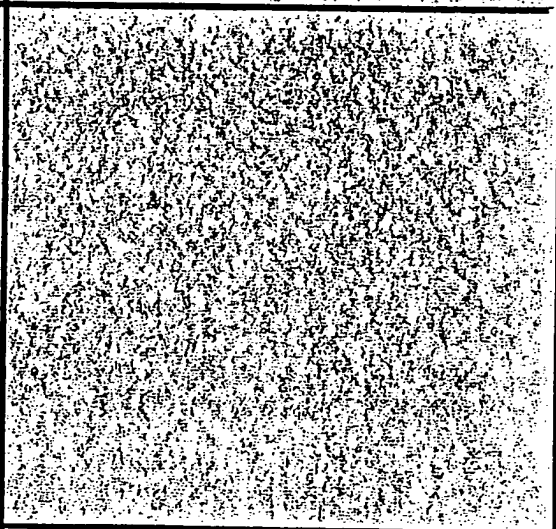
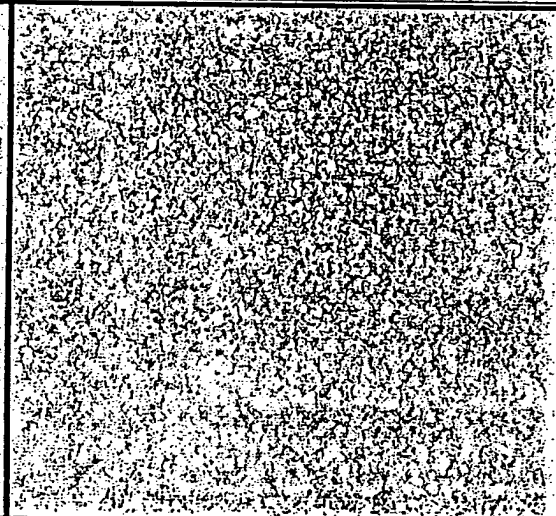
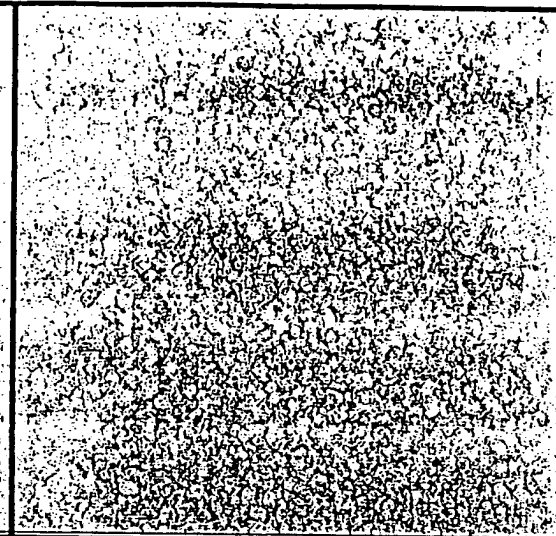
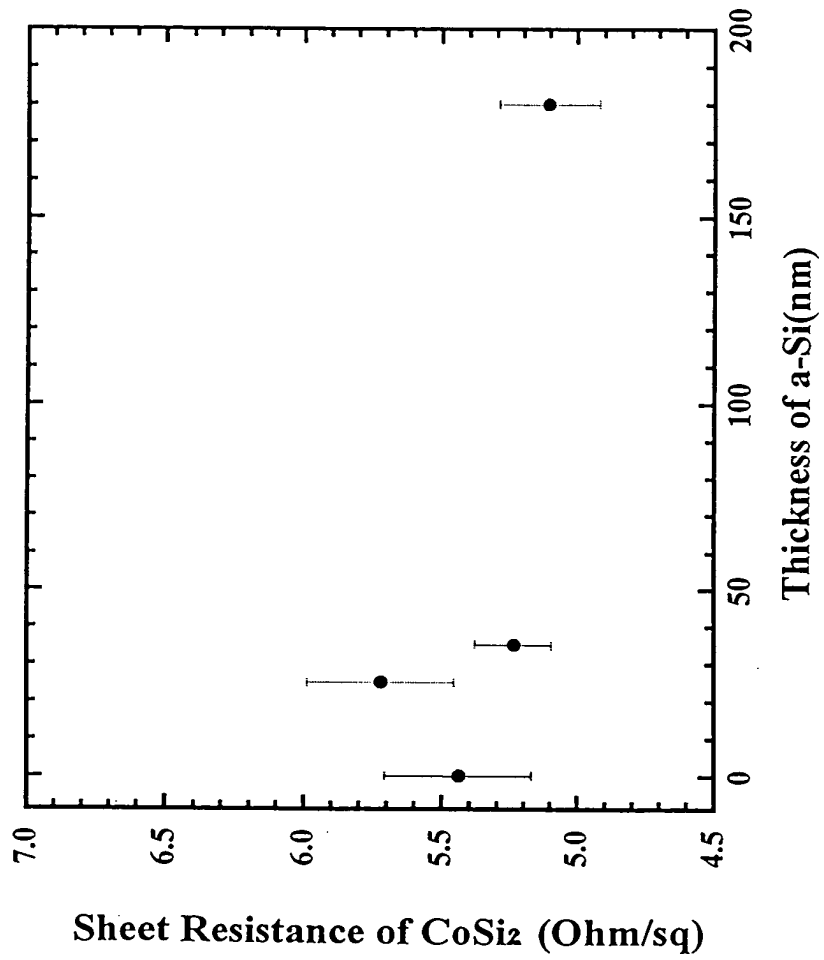
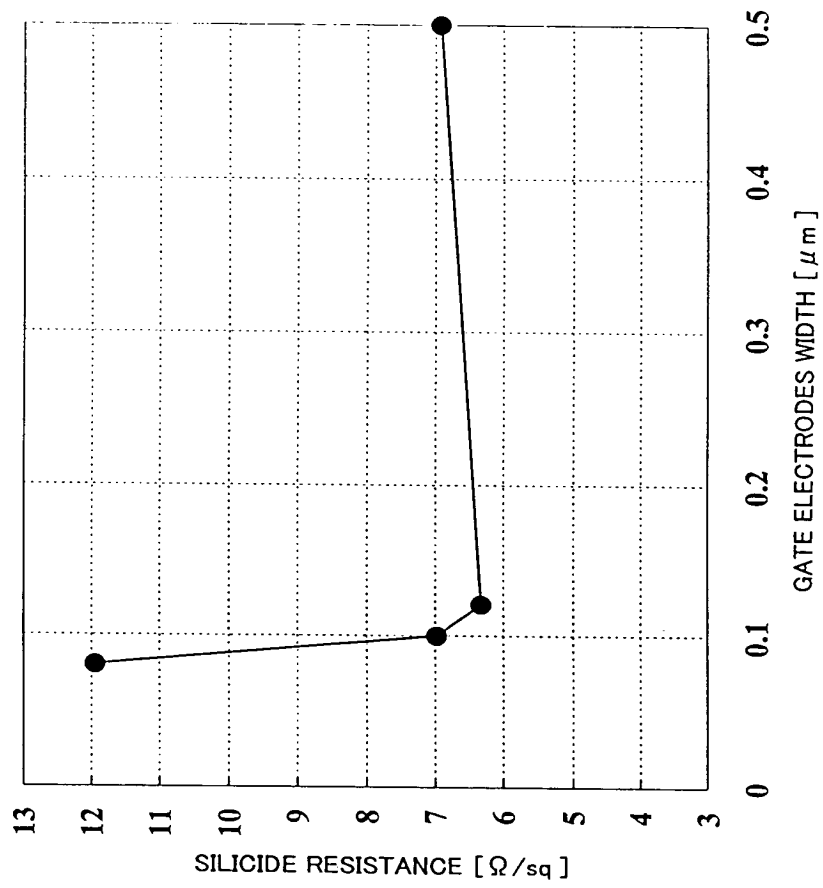
| | CASE OF SINGLE-LAYER POLYCRYSTALLINE SILICON FILM | CASE OF TWO-LAYER POLYCRYSTALLINE SILICON FILMS (a-Si THICKNESS: 25nm) | CASE OF TWO-LAYER POLYCRYSTALLINE SILICON FILMS (a-Si THICKNESS: 35nm) |
|--------|--|---|--|
| NSD-P+ |  |  |  |
| PSD-B+ |  |  |  |

FIG. 11



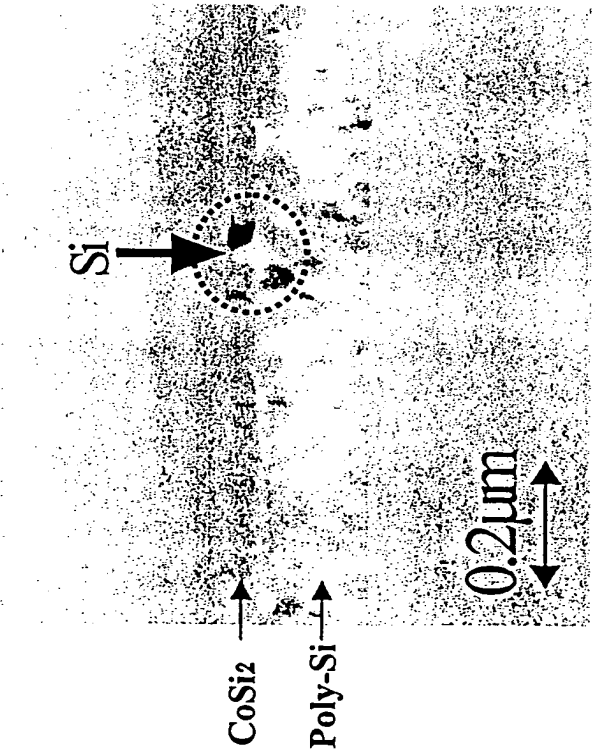
<DEPENDENCE OF SILICIDE RESISTANCE ON FILM THICKNESS OF AMORPHOUS SILICON FILM>

FIG. 12



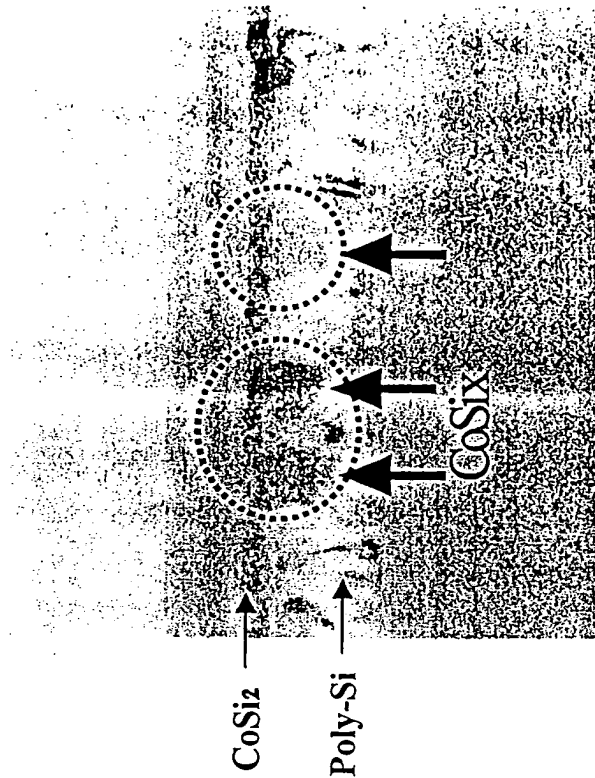
<DEPENDENCE OF COBALT SILICIDE RESISTANCE ON WIDTH OF WIRE>

FIG. 13



< PHOTOGRAPH OF CROSS SECTION OF CoSi_2
FORMATION DEFECT POINT >

FIG. 14



< OVER SILICIDIZATION REACTION POINT EXAMINED IN
PHOTOGRAPH OF CROSS SECTION >